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Surgical Technique in General Veterinary Practice

DISCUSSION BY THE CENTRAL VETERINARY SOCIETY*

Professor C. FORMSTON (Royal Veterinary College): The term "surgical technique" is so comprehensive that it is almost impossible to define it. It embraces amongst other things a thorough knowledge of topographical anatomy, a true understanding of physiological function and a rigid regard for asepsis. It demands some degree of manipulative skill and digital dexterity. In veterinary surgery the compliance and immobilisation of the patients is of no small moment, and in this latter respect it can be said without fear of contradiction that efficient surgery and adequate anaesthesia are inseparable. The definition I would offer of good surgical technique is concise and is in effect respect for living tissue and the complex machine of which that tissue is a vital component part. Too often is it thought that good technique begins and ends with the observance of Listerian principles. Too often we are unmindful of tissue reaction consequent upon surgical and accidental wounding.

In veterinary surgery environmental conditions and the nature of our patients render difficult the adoption of strict asepsis and on occasions we have to be content with a combination of aseptic and antiseptic methods. In such instances it is more than ever essential that operative procedures shall interfere as little as possible with local and general powers of resistance and resolution. Contamination of wounds is sometimes unavoidable but should sepsis follow it may mean that there has been gross tissue damage.

It is intended therefore to refer briefly to some aspects of general surgical technique which are often ignored yet have a marked influence on tissue repair.

INCISIONS.—Surgical incisions should be of a length compatible with maximum expediency and a minimum of trauma. Small laparotomy incisions, for example, are often more spectacular than sensible and are frequently responsible for the severe handling of abdominal viscera generally and some organ in particular when the latter has to negotiate the laparotomy wound.

Forceful separation of tissue or blunt dissection has its indications but most definitely its limitations. It is a poor substitute for incision and can be practised to excess. It may not be inappropriate at this point to deprecate the indiscriminate use of artery forceps to retract wound edges for the purpose of exposing deeper structures. If no alternative means is available then a minimum of tissue should be included.

HAEMOSTASIS.—Haemorrhage control is essential for the well-being of the patient and for the rapid uninterrupted healing of the wound. The two most universal methods of control are those of forcipressure and ligature. Careless application of either method is accompanied by unnecessary devitalisation of tissue. This is more prone to occur with small capillary bleeding points where the severed vessel is not conspicuous. Often too much surrounding tissue is incorporated in forceps or transfixed by ligature. Mass ligation of vessels should be avoided; every ligature employed irrespective of material used is a "foreign body."

Winter (1920) referred to the rapid coagulability of the blood in the horse and suggested that ligatures could be kept to a minimum.

REPAIR OF SURGICAL WOUNDS.—"All real surgeons have been interested in wound repair" (Whipple, 1940). Success in the form of primary union can only be achieved by strict asepsis, by the application of approved methods of coaptation and by the careful selection of suture materials. It is to this latter aspect that I wish to refer in some detail, for I feel that it is one that has not received sufficient critical examination. There can be no doubt that the generalised and somewhat indiscriminate use of catgut is often primarily responsible for tardy healing and disruption of wounds. Its attractions of absorbability are overshadowed by its unreliability and tissue irritation. Most of us have had the unhappy experience at some time or other of seeing a canine patient taking a too keen interest in a laparotomy wound several days after operation. Inspection has revealed disruption of the deeper tissues which have been repaired with catgut whilst the skin wound has been intact. Often no trace of the catgut can be found. At other times knots have come untied, sutures are surrounded by pus and there is marked tissue reaction. Contamination of the wound at the time of operation cannot be accepted as the cause. Halsted (1913), in his wholehearted condemnation of catgut as a suture and ligature material, said "It should be borne in mind that during the greater part of the period of its disintegration the catgut suture is not only serving its purpose but is playing the role of necrotic tissue, of a culture medium." The veterinary surgeon has always had a bias in favour of the use of such non-absorbable suture materials as silk and cotton chiefly, on account of their tensile strength and the stability of their knots. In small-animal surgery the objection to silk or cotton is the possibility of suture abscess and sinus formation. I believe that this is in no small measure due to the use of the same materials in repair of the skin incision and can be obviated by the use in the skin of a material possessing less capillary attraction such as silkworm gut or nylon. Undoubtedly other predisposing factors are the use of silk which is too thick and the leaving of "long ends." Any other objection to the use of a non-absorbable material is probably imaginary and I would deal with this aspect by again making reference to Halsted who, when asking another famous surgeon why he still used catgut, received the following reply, "Because I cannot free myself of the prejudice against a non-absorbable suture. I believe that it is foolish to use catgut and every now and then when my wounds break down too frequently I discard it."

During recent years in veterinary practice the tendency towards the use of catgut both for sutures and ligatures has increased whilst in human surgery the trend has been in the other direction. Still more recently human surgeons have found that nylon is just as satisfactory for buried sutures as for skin wounds and causes less tissue reaction than silk. In a series of experimental abdominal wounds in rats sutured with nylon and with catgut, Haxton (1945) found that those sutured with catgut were always more inflamed and oedematous. In 10 per cent. of them there was pus around the catgut. The wounds sutured with nylon healed rapidly with little reaction. This author has since used nylon for buried sutures and ligatures in 300 operations and has "never had cause to regret it."

Dislike for the use of catgut as a buried suture may be regarded as heresy in the realms of surgery, but I maintain that over a period of years experience has shown that the repair of surgical wounds, intra- or extra-abdominal, in small animals by non-absorbable materials, chiefly in the form of silk, has made for greater technical efficiency. Dogma and bias often cause the teacher some mental uneasiness. On this question of suture materials, however, one can seek refuge in the statement, "There can be no doubt that the trend from absorbable sutures is based on sound surgical principles, and is not to be dismissed as a fashion" (*Lancet*, 1944).

I would now like to comment on more specific aspects of technique as they apply to particular operations.

LARGE-ANIMAL CASTRATION.—Removal of the testicles by any particular method of castration irrespective of whether it be by the use of the écraseur, emasculator, wooden clam or the actual cautery, aims at the control of haemorrhage, a matter to be taken seriously in the more adult animal. None of the above methods is 100 per cent. reliable and the use of the actual cautery cannot be reconciled with modern surgical principles. It destroys tissue and predisposes to sepsis. A bleeding vessel in any other part of the body would be ligated but apparently the spermatic vessels are in a category by themselves.

There seems to be some inherent prejudice to the application of a ligature to these vessels and one can only surmise it dates back to the time when coarse non-absorbable suture material was used and when in all probability tissues other than the vessels were included. During more recent years Professor J. G. Wright has advocated a return to the use of a ligature using catgut and it cannot be denied that with modern materials and methods it is a technique which should receive a greater measure of approval amongst veterinary practitioners in the castration of all adult animals irrespective of species. The nightmare of answering a call to attend to an animal which is "bleeding" would become something of the past.

ENUCLEATION OF THE EYE IN THE DOG.—The method I propose to describe differs from the orthodox in that it dispenses with packing of the orbital cavity. Consequently asepsis is maintained and healing by first intention occurs. Under nembutal anaesthesia the

* At the meeting held at the Conway Hall, London, W.C.1, March 1st, 1945.

conjunctival sac is irrigated, the hair around the eyelids is clipped or shaved and the eyelashes are removed. The palpebral margins are now approximated by means of four or five interrupted silk sutures as described by Reynolds (1920).

The site is cleaned with spirit. Cloths are applied and two curved incisions are made approximately half an inch from the edge of the upper and lower lids respectively, to meet at the outer and inner canthi. These incisions are extra-conjunctival and are carried through the thickness of the lid to expose tenon's capsule, recognised by its whiter glistening character. This layer of fascia is punctured in the region of the outer canthus and invariably a little periorbital fat protrudes. Working from the outer canthus, the superior and inferior oblique and recti muscles are severed. Some little difficulty is encountered at the inner canthus in separating the skin, because of its fixation to the underlying bone. This part of the operation is completed towards the end because of the presence of the substantial angular vein, a branch of the facial, which if accidentally severed masks the field by its profuse haemorrhage. This vessel leaves the globe on its upper aspect at the inner canthus and has to be cut in freeing the eyeball. It should be looked for and clamped. Tenon's capsule having been incised all the way round, along with the ocular muscles, a pair of artery forceps—preferably angular—are introduced into the orbital cavity from the direction of the inner canthus to include the retractor oculi muscle and with it the optic nerve and its artery. These structures are now severed between the forceps and the eyeball. The forceps are left in position whilst the wound edges are brought together by means of interrupted nylon sutures. Naturally coaptation is not complete at the inner canthus because of the presence of the forceps.

A sterile gauze pad, as used by McCunn for the protection of his laparatomy wounds, is now applied to the wound and retained in position by means of sutures. The last suture is tied after removal of the artery forceps which are opened to release the nerve and then closed to make for easy withdrawal.

Discussion.—This operation is seldom conducted without haemorrhage but it readily subsides without resorting to ligatures or forcipressure. The main source of bleeding is from the central artery and forcipressure, as described, is sufficient. The application of the pad obliterates most of the potential dead space which would be permitted by the rather loose skin of the eyelids and its use in no small way contributes to the success of the operation. The animal makes no attempt to interfere with this pad which is removed in six or seven days' time along with the coaptation sutures. More than 40 operations have been performed using this technique and any untoward sequel has yet to be encountered.

Extirpation of the Anal Sacs in the Dog.—The only aspect of this operation to which I would refer is a technique which facilitates their complete removal. This consists of the evacuation of both sacs and their subsequent distension with paraffin wax. The operation is carried out under nembutal anaesthesia. An ordinary 2 c.c. "record" syringe is warmed and filled with wax which has been heated to a temperature slightly over melting point. The nozzle is introduced into the gland duct and pressed well home and the wax injected. When wax returns between the duct wall and the syringe nozzle enough has been introduced, but the syringe is kept in position, to prevent undue escape, until solidification has taken place. The time required is no more than two to three minutes; both sacs are treated similarly. The sacs can now be felt as hard tumour-like bodies with well defined limits. In view of the fact that this operation is accompanied by profuse capillary bleeding, some reliance has to be put on one's tactile sense rather than vision. By this method it is claimed that the operation can be more expeditiously performed with a maximum degree of certainty in respect of the removal of the sacs in their entirety.

Caesarian Operation in the Bovine.—Again it is only intended to describe a method of approach to the uterus which is thought preferable to others.

Some operators, Wright (1931), and Curtis (1939), make a vertical laparotomy incision in the right flank. Frank (1942) prefers a paramedian incision to the left of the midline, between it and the subcutaneous abdominal vein, extending from the udder to the umbilicus.

The technique followed by the writer is as follows: Chloral hydrate is given intravenously until the cow assumes recumbency. The animal is placed in lateral recumbency with the left side uppermost. Anaesthesia is completed with chloroform inhalation. The site is appropriately prepared and an incision is made approximately four inches lateral to the subcutaneous abdominal vein and extending anteriorly from the udder for a distance of from 12 to 14 inches.

Discussion.—Despite the fact that the incision is made on the rumenal side of the cow, the uterus is easily picked up and can be freely handled. The rumen is no obstruction and, in fact, helps to maintain the uterus in position when brought into the incision. Omentum presents no difficulty. The main advantage lies in the fact that while incisions on the right side of the animal are complicated by the presence of coils of small intestine, through the incision described they are not encountered. At the same time the transversalis abdominis muscle at this site is substantial and when included in the peritoneal suture gives support to this latter structure with less risk of the sutures tearing out.

Repair of Laparotomy Wounds in the Bovine.—Vital factors in wound repair are the elimination of "dead space" and immobilisation of the tissue, particularly muscle tissue. Closure of wounds in the oblique and transversalis muscles either separately or collectively, using catgut or silk, has not resulted in healing to a standard which we think is attainable, namely, first intention. Consequently the muscle tissue is included in the skin sutures using half-inch tape in the form of an eversion suture. In laparotomy wounds other than rumenotomy the transversalis muscle is included with peritoneum as one separate layer leaving the oblique muscles to be incorporated with skin, whilst in rumenotomy where the peritoneum is sutured to the rumen (Götze, 1934) the three abdominal tunics are included with skin.

Technique.—The skin is penetrated approximately one and a quarter inches from the wound edge. Before penetrating the muscles these are drawn towards the centre of the wound. The suture then crosses over and in similar manner penetrates muscles and skin in that order. The needle now pierces the skin only about half an inch from the wound edge, crosses the wound and makes its exit after again passing through skin. Knots are tied when all sutures are in position.

Discussion.—With this method the muscle tissues are brought into direct apposition. Muscle contraction and movement is controlled by the overlying skin so that immobilisation is more or less complete. The edges of the skin wound are everted and the minimal number of "foreign bodies" in the form of sutures is introduced.

No originality is claimed for this type of suture; it is described in most standard medical textbooks. Gold, using nylon, uses this suture in his closure of laparotomy wounds in the dog with the difference that peritoneum is also included.

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Mr. S. F. J. Hodgman (Shortlands, Kent): When first asked to speak on the subject of surgical technique, I was somewhat daunted by the problem of where to start and what would be the best approach to my subject. I have decided to confine my remarks to my own technique in dealing with abdominal surgery in the smaller animals, and to give you a rough description of my general methods, rather than a minute account of any specific operation.

As the subject is surgical technique it will not be out of place to say a word on the surgeon. I think that, like the horseman, he is born and not made. The subtle difference between the rider and the horsemaster also exists between the operator and the surgeon, and often tips the scale between success and failure.

Speaking personally, I believe that any success I may have is largely due to two factors:

(i) Particular attention to general preparation, including that of the patient; and

(ii) making my incision sufficiently large to enable me to see what I am doing. Like Professor Formston, I am certain that one does less damage in the long run by being bold at the onset. Actual details of operative technique, of course, vary with different surgeons.

Antiseptics or Aseptic Method.—I try to get as near to the latter as possible, but with our patients we cannot rely upon it, and so I combine the two.

My operating room is kept as clean as possible and before operating the table, etc., is washed down with a weak carbolic solution. A special room for this purpose is, in my opinion, not essential providing ordinary commonsense precautions are observed.

I wear a laundered operating gown and, in normal times, I prefer to work in gloves. These I do not sterilise in the normal way, but after putting them on I wash with ether soap, rinsing off in a bowl of water which has been boiled. To this water I previously add a few drops of carbolic, say to make ½ per cent. solution. I then rinse off again in a bowl of normal saline solution.

Instruments.—These are sterilised by being boiled in an ordinary steriliser for one hour and I add to the water used a few drops of carbolic. I am rather particular as to how my instruments are

arranged. I only mention this point as I find it so much easier if one trains one's assistants to place them always in the same order; they can be picked up more easily without having to hunt around, also one can tell at a glance if everything wanted is there.

Swabs.—There was a time when I could not afford a sterilising drum, so I bought a four-tiered vegetable cooker; it has proved such a success that I have used it now for 15 years and see no good reason why I should use anything else. It can be regulated as to the amount of steam allowed to pass to the cloths and swabs above, and I find that one to one and a half hours are required to get absolute sterilisation. If, however, they have been boiled up before (which is my usual custom) so that they are always more or less ready, then a much shorter time is required.

Needles.—To my mind, this is purely a question of individual taste. I prefer small half curved for most of my abdominal work; this applies to both cutting and non-cutting.

Ligatures and Sutures.—For internal work I use chromic catgut, 10- or 20-day, and I get it made up in sterilised tubes with screw caps and the sizes are from 000–2. I prefer this to anything else. I cannot remember when I last had trouble due to sutures becoming untied. I always put the strands of gut I shall require in the water along with my instruments (after boiling); I find the water softens the gut and makes it easier to work with, both from the handling point of view and more especially when tying off.

For the skin I use linen cord No. 35. At one time I had great difficulty about healing of the skin by first intention, but since I gave up using silk I have had no trouble about this.

As I do not bandage abdominal wounds, I found there was a tendency towards suture abscesses. I overcome this by removing my sutures on the third or fourth day. I always use the mattress suture for closing the skin, one of the advantages being that by this method early removal is facilitated.

Preparation of Patient.—I believe in taking off as much hair as possible. After all, it soon grows again and there is nothing that annoys me more than to have hairs appearing as from nowhere. I find that if a large area is clipped or shaved to start with, this nuisance is largely overcome. I prefer clipping as it is less irritating to the skin. The site of operation is washed with ether soap and water; it is then treated with a weak iodine solution, the surrounding area being damped down with a dettol solution. Where possible I like my patient prepared in good time.

There was one point I omitted that may be of interest. I always lay my patient in a trough when doing abdominal surgery. I unreservedly recommend this method as, in my opinion, it has decided advantages over the usual practice of strapping out on the table.

This, I am afraid, is a very brief summary of my general methods. There is of course a great deal more to be said but it is perhaps as well that I should leave plenty of time for the discussion that, to my mind, is not the least valuable part of a meeting of this nature.

General Discussion

Miss J. O. Joshua: There were many points which had been raised, both by Professor Formston and Mr. Hodgman, which had interested her very much, but she was wondering whether it might not be better to add to the ground to be covered by mentioning one or two variations of commonly known techniques which she herself had found of value, since she believed the purpose of the paper presented that day was to make known certain small differences in commonly used surgical techniques which individuals had found useful.

She was an advocate of the flank incision in the abdominal surgery of small animals—to which she confined herself. She agreed with Professor Formston that immobilisation of the tissues was very important as far as healing was concerned, and she thought one could achieve that by careful selection of the site. In the flank one avoided pressure on the wound by the weight of the viscera on the floor of the abdomen; also, rapid healing was more likely when cutting was transverse to the muscle fibres rather than longitudinal as was the case in the mid-line; lastly the tissues in the flank were more vascular than in the mid-line and this again facilitated healing. She invariably used this site for Caesarean section in the bitch; it had the additional advantage that there was no interference with the wound when the bitch suckled her puppies—a process which played an important part in causing involution of the uterus. Professor Wright was the first to use the flank incision in this operation, making it either obliquely downwards and backwards or almost horizontally. Her method was to carry the incision along the long axis of that part of the uterus which lay closest to the vagina, that is, upwards and backwards. She had found no disadvantages as far as healing was concerned, neither were there any difficulties in making the incision. It was then a simple matter to bring either the head or haunches of the foetus immediately under the incision into the incision and so get that uterine horn out of a reasonably sized wound. She found that this modification of Wright's method overcame the difficulty which he had sometimes encountered in getting the gravid uterus out of the incision. In spite of the fact that she used catgut for suturing the muscles, she usually got first intention healing.

Recently she decided to attempt a cystotomy through the flank in the cat, and she found that by making the incision in much the same position as a spay incision but taking it slightly farther back and lower down she was immediately on top of the bladder, which came out through the incision with no difficulty: there was no bruising at all; it remained through the incision with no swab packing. The wound had healed by first intention. [Miss Joshua has reported later that since this meeting was held she has performed a cystotomy through the flank in a Dalmatian dog, with equally satisfactory results.]

Another technique which she had found useful was a method of giving the barbiturate anaesthetics by intravenous injection without any assistance. A number of people were reluctant to use the barbiturate anaesthetics on the ground that the intravenous method required considerable assistance; Wright recommends two assistants when using the external saphena vein or one if the radial is used. She had now given nembutal or pentothal sodium for purposes of anaesthesia in upwards of 70 dogs, and had given nembutal or saturated mag. sulph. solution for euthanasia in some 200 odd cases by the intravenous route, using the radial vein. The subjects had varied from lively puppies of four months of age to old and almost moribund adults; breeds had varied from Pekes to Irish Setters. She paid great attention to detail in using this technique. Asked for particulars, Miss Joshua gave the following details:—

An appropriate syringe and an adequate selection of needles with good points (this was most important as one could not expect a dog to sit quietly whilst one stuck fish-hooks into it) were boiled, and whilst this was being done the dog was placed on the table and the area over the vein was clipped; oddly enough, most dogs just sat quietly and allowed this to be done. She found it was rarely necessary to tape dogs, but this preliminary preparation was a good guide as to whether this was likely to be necessary; occasionally dogs were very inquisitive and persisted in sniffing the syringe, etc., in which case it might be necessary to attach the dog's collar by a lead to a suitable hook in the table so that the head could be kept turned away from the operation site. She now placed the computed dose of nembutal in the syringe (having meantime put the dog back on the floor); water from the pan in which the syringe was boiled was used to dissolve the nembutal. Now, having syringe, needles and pan of water within easy reach, the dog was replaced on the table and a light tourniquet was applied above the elbow in the form of a piece of bandage tied by using the double twist of the first stage of a surgical knot; she found this raised the vein sufficiently without obstructing the flow and it could be easily loosened at a later stage. Having cleansed the area over the vein with spirit she drew the hot water into the syringe to make the solution (one hand could be kept on the dog's collar if necessary while this was done) and then continued using the usual intravenous injection technique. In a reasonably healthy dog she injected a first dose fairly quickly, in the case of nembutal from one-half to two-thirds of the computed dose, and in the case of pentothal one-third to one-half. Fixing the syringe to the limb by the left hand, as described by Wright, she took hold of the dog's scruff with the right hand before he collapsed and so could let him gently down on to the table. She found it noteworthy that rarely did a dog attempt to withdraw the limb when injection was made, and also that she had encountered exceptionally few cases of narcotic excitement during induction (only two, if she remembered correctly); this latter she attributed to the complete absence of restraint and thus absence of subconscious resistance as the higher centres were knocked out.

She had had only one fatality using this technique and that she considered to be entirely her own fault—it was the third occasion on which the bitch in question had been nembutalised by this method and she had quite omitted to allow for the fact that on the third occasion the patient was very toxic due to pyometra, whereas on the previous occasions she had been in almost normal health!

Major H. Kirk heartily thanked Professor Formston and Mr. Hodgman for their excellent papers: he had never listened to a more informative and practical paper than that by Professor Formston. He was glad the latter had brought up that old controversy between catgut and silk. For a number of years he had used the latter on all abdominal operations; then, three or four months ago, he had two cases of what appeared to be suture abscesses, so he started suturing with catgut. He did not like using it; he found it very poor material to work with, but he was using it now in the hope that he would get no more suture abscesses; of course he always used silk for the skin. Some of the writers in medical journals consistently employed catgut for their internal operations. He would like to ask Professor Formston what nylon really was and if it was boilable; was it put up in sterile tubes ready for use, and what was its cost compared with silk? Professor Wright, in 1939, abandoned entirely the use of catgut for oöphorectomy, etc., and silk for the skin: that decision seemed to be reflected there that day. He would like to ask Professor Formston if he did not think that catgut was really much better for bladders and intestines because of the fact that it was absorbable. As regards Dr. McCunn's contention that sutures always made their way to a lumen, was not the abdominal cavity itself as much of a lumen as the bladder or intestine? But obviously if silk worked its way inside the bladder it would form a ready nidus for calculi. The last cystotomy he did appeared to keep on filling with blood, in spite of the fact that the incision was made in a spot apparently most free of vessels. It was quite alarming and he was fearful of closing the bladder whilst it was filled with clot. However, adrenalin stemmed the haemorrhage to a large extent, and recovery was uneventful; but he would like to know how long such a clot, if left in, would take to disintegrate, and whether there was much danger of ischuria?

He would be glad to learn from either of the essayists what they considered was the best method of dealing with the uterine stump after hysterectomy. Some said that a ligature round the stump was sufficient, and others, Wrigat particularly, told one to ligate the uterine vessels and then suture right across one's incision.

In regard to Mr. Hodgman's reference to the use of carbolic for washing the skin, he found that it was not so good as dettol, because it was not readily miscible with water, but floated about as small globules which tended to burn the skin.

Miss S. Stainton: She did her operations in the orthodox way, using catgut for deep sutures, and until recently this had proved quite successful. A short time ago she had been compelled to borrow some catgut from a neighbouring doctor with disastrous results as, with the exception of spayed cats, nearly every operation had gone wrong. There was sepsis in varying degrees. The gut used was a tube with a screw top containing one-foot lengths. The fact that female cats did not go septic suggested that it was not necessarily a contaminated tube of gut. Moreover, she had had trouble with catgut ever since, though she had seen other materials used without mishap. Whether or not war-time difficulties in production were responsible she did not know.

Miss Stainton proceeded to recount the case of a two-year-old Great Dane bitch suffering from pyometra of long standing. The bitch was very thin though eating well and quite lively. Temperature was only slightly up. Discharge was continuous and heavy. Under sulphanilamide and pituitrin treatment the bitch improved a little in condition but discharge persisted, and after a fortnight she suddenly stopped eating and the temperature went up. Operation was decided upon under morphia and nembutal. Instruments were boiled but no special precautions were taken. The uterus was apparently normal, but when followed up to the ovaries a colossal mass was found. It was impossible to get this out through the incision even when enlarged. Palpation of the mass showed it to be cystic. Possibility of recovery seemed so remote that from this point all attempts to keep the operation wound sterile were abandoned, as the only way of removing the enlargement was by voiding it. A piece of unsterilised rubber tubing was used and a good deal of the fluid entered the abdominal cavity. It was unavoidable. Ovariohysterectomy was performed as usual. The growth was a carcinoma. The animal made a rapid recovery. The wound healed by first intention. It seemed worth noting that in spite of complete and utter lack of asepsis there was no complicating pus formation.

(*To be continued*)

Weekly Wisdom

"... *When the problem arises of estimating public resources the man of wit visits the ruler's palaces, and his ports, his troops, his arsenals, and his cities; the honest political worker wends his way through the countryside and goes to the tiller of the soil in his cottage. The former sees for himself what has been done and the latter sees what can be done.*"—Rousseau. (Motto on front page of Arthur Young's *Annals of Agriculture*, 1786.)

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SURGICAL TECHNIQUE IN GENERAL PRACTICE

At a recent meeting of the Central Veterinary Society the principles of surgical technique in general veterinary practice were discussed. There was a divergence of opinion on some of the topics but it was not disputed that a sound knowledge of anatomy and physiology, with a commonsense application of that knowledge, together with manipulative skill on the part of the operator, were prerequisites for good surgery. To operate without having complete control of the animal and unduly to limit the size of the incision were deprecated. It was emphasised that the healing of operation wounds is retarded by damage to tissues through excessive use of compression, mainly to control haemorrhage, and by the application of unsuitable antiseptics. Absolute asepsis is not always possible, but to rely on antiseptics instead of asepsis is not achieving the desired object. Different views were expressed on what was regarded as the ideal suture material—catgut, silk, cotton, nylon and other materials having their supporters and opponents. The advocates of catgut claimed that its absorbability and other good points outweighed its defects of unreliability, difficulty of tying and other undesirable features, stating that its alleged unreliability was due to faulty preparation. The other materials were extolled or criticised according to the individual speaker's experience but it would appear that nylon has more advantages than disadvantages. Differences of opinion were revealed on the merits of cautery in the castration of large animals with the ensuing damage to the tissues and liability to sepsis. It was suggested that custom and prejudice were factors in its continued use but others favoured cautery despite its drawbacks, maintaining that better results were obtained than by ligation of the cord.

The discussion covered a wide field ; operations such as the enucleation of the eye and extirpation of the anal sacs in the dog were described and the advantages gained by performing a Caesarean operation in the bovine on the left instead of on the right side were indicated. The better results obtained by making flank incisions when doing abdominal operations in small animals were explained, while the description of a method of making intravenous injections of barbiturates single-handed was a useful contribution to the pool of common knowledge. Such meetings must be of benefit to all who attend them.

REPORT

[Eleventh Report on Sheep and Lamb Diseases. Alan Duke of Northumberland Memorial Fund.]

This report maintains the standard of previous ones and provides a useful little handbook for distribution among farmers. Though the investigation of sheep diseases has shown great progress during the last 20 years, there are many problems still to be solved of real economic and academic importance, and any carefully co-ordinated work covering a wide area is to be welcomed.

The National Association for the Prevention of Tuberculosis and the Committee for the Study of Social Medicine have issued the report of the Joint Committee set up to enquire into the income and food expenditure of tuberculous households in wartime. The report, price 3s., is obtainable from the N.A.P.T., at Tavistock House North, Tavistock Square, London, W.C.1.

CLINICAL COMMUNICATION

Staphylococcal Cystitis in a Dog

A. SUTHERLAND,
Bangor,
and
H. WILLIAMS SMITH,
University College of North Wales, Bangor

Subject.—Seven-year-old Collie dog.

History.—Symptoms were sudden in onset and the dog was first noted to be ill on the morning of May 2nd, 1945. There was no previous history. Professional advice was sought that evening.

Examination and Treatment.—The patient appeared reluctant to move about and preferred to stand with its back arched and its hind legs wide apart, making frequent straining efforts as though to micturate. The abdominal muscles were very tense and hard and on the slightest pressure in this region the dog evinced pain. The rectal temperature was 102·5° F. and the pulse was soft and slow. There was some diarrhoea.

In order to make a thorough examination it was decided that general anaesthesia would be necessary and this was accomplished by the intravenous injection of nembutal. A careful examination of the abdomen together with rectal examination was now carried out. The bladder was noted to be tense and extremely distended. Urine was drawn off with a sterile catheter and no urethral obstruction was noted during this process, neither was a vesicular calculus palpated on further examination. The anaesthesia produced was of longer duration than normally would have been expected. The dog was in a state of deep anaesthesia for 24 hours and three injections of 1 c.c. of coramine were given at two-hourly periods in the latter part of this period.

The urine was alkaline, turbid in appearance, the addition of acetic acid having no effect in producing any clearing. Microscopic examination of the deposit obtained after centrifugalisation of the urine showed it to contain very many leucocytes and enormous numbers of staphylococci. No mineral deposits or casts were noted. The deposit was plated on to blood agar and a pure and plentiful culture of *Staphylococcus pyogenes albus* resulted. "Cup" sensitivity tests were carried out on horse blood agar against penicillin (1 drop of 10 units per c.c.), sulphathiazole (1 drop, 40 mgm. per 100 c.c.), and sulphapyridine (1 drop, 40 mgm. per 100 c.c.), and the staphylococcus was found to be equally sensitive to sulphathiazole and penicillin but not to sulphapyridine.

Sulphathiazole therapy was commenced on May 4th with an initial dose of 3 grammes, followed by 1 gramme every four hours. A further urine sample taken before the application of treatment was again found to be turbid and also to contain very large fibrinous clots. Direct microscopical examination revealed very many leucocytes and masses of staphylococci, plate count a few hours after sampling showing approximately 10^9 colonies of staphylococci per c.c. of urine. The fibrinous clots, presumed possibly to be the result of staphylococcal coagulase acting within the bladder upon the inflammatory exudate, were considered responsible for the mechanical blockage of the urethra which had necessitated frequent catheterisation during the course of the illness. On May 5th improvement in the patient's condition was most noticeable. Urination was now easily accomplished, abdominal pain had considerably lessened and appetite had returned. Sulphathiazole therapy was discontinued on the evening of May 7th when the dog was considered to be perfectly normal. An uncatheterised sample of urine obtained on May 9th was alkaline in reaction but one taken on May 12th was acid. Both samples showed the absence of leucocytes and owing to the method of collection were unsuitable for bacteriological examination.

EFFECT OF SULPHANILAMIDE ON LAYING PULLETS

Scott, Jungherr, and Matterson, of the Storrs Agricultural Experiment Station, established the safe dose of sulphanilamide in young fowl by feeding laying pullets various amounts in their feed. The dosage ranged from 0·002 to 0·5 per cent. of the total ration. Striking results were obtained on the laying rate and the thickness of the egg shells. Single doses of 2·5 grains (0·16 gm.) per pound (0·454 kg.) of live weight disturbed the rhythm of laying as did also doses of 0·5 and 0·25 per cent. of the total feed. At 0·03 per cent. of the total feed, this sulphonamide was tolerated without causing adverse influence on egg production, and what is said of egg production applies also to the thickness of the shell. The cause of thin shell is attributed to retarding the secretion of the egg-shell gland.—*Poultry Sci.*

MEETING REPORT

British Society for Animal Production

Discussion on Meat

At a meeting of the above Society held on February 21st, 1945, at the London School of Hygiene, three very interesting papers relating to meat were presented as under. These papers were packed with data and valuable information which it is quite impossible to condense, but the following notes will give the reader some idea of their substance.

(1) **Meat Supplies.** (Mr. W. H. Warman and Mr. R. W. Pomeroy.)

Great Britain, before the war, received 90 to 95 per cent. of the exportable surplus of meat in the world. Though this may seem a high figure, the situation is not very different to-day. New Zealand and the U.S., however, are sending a considerable quantity of beef to the Pacific Forces. Thirty-three per cent. of our present import is beef but much of it goes to our fighting forces. Strangely enough, more actual meat is now imported than in peace-time as most of the bone is removed. At home the total production has fallen by three-tenths—beef by one-sixth, pork by seven-eighths and lamb by one-quarter, the last largely due to the reduction in grassland acreage.

The advocated policy of the Ministry of Food, encouraging greater weight at slaughter, resulted in a marked rise in Spring but not during other periods of the year. The weight of all cattle averaged 570 lb. for the month of October in each year of the war. The finish of the animals did not, however, deteriorate—an all-important point since this quality is directly related to the fat content, a substance liable to be short in our war-time diet.

Official advice to rear all heifer calves with, at the same time, a marked emphasis on milk production, resulted in many poor "no purpose" animals finding their way on to the meat market, and an increase in cow beef. Four cows were received for every ten cattle. Eight per cent. of the total meat was sent for manufacture as compared with 3 to 4 per cent. in peace-time. The increased number of cow-heifers (animals recently calved and found to be useless as milkers) was considered also to be a reflection of this policy, and should be a warning to those responsible for our post-war plans.

As for sheep, the population fell from 25,993,000 in June, 1939, to 19,698,000 in 1943, but, at the same time, the average weight went up in the Spring from 50 to 54 lb. per carcase. Seasonal conditions, as well as a longer period to reach maturity, would explain this.

Warman clearly shows the place that stock should play in post-war days and justifies his plea that all forms should receive official support and encouragement.

(2) **Marketing and Distribution.** (Mr. T. J. Shaw.)

This paper was very specialised in character and dealt strictly with marketing problems but in view of the interest which veterinarians are taking in the public health side of food production the present chaotic state of the industry is worthy of reference here. Mr. Shaw claims that the whole organisation of food production needs revising from the bottom and, after a preliminary introduction, relates his suggestions to the following three aspects:—

1. The farm to abattoir organisation.
2. The abattoir organisation.
3. The wholesaling organisation.

A great deal of money is now dissipated between the producer and the consumer, taken up largely by middle-men assisting in a very complex system of distribution, transport, etc. For instance, there are 16,000 private slaughterhouses and 115 municipal ones, all more or less poorly equipped, almost solely concerned with slaughtering and unable to deal with the by-products. Shaw makes out a very good case for the so-called "factory abattoir"—a very comprehensive organisation dealing with animals as well as their by-products, which is a rarity in this country—and also suggests ways of making home produced meat more attractive for the consumer.

In concluding, Shaw makes a plea for rationalising the channels of livestock sales and slaughtering units, the proper siting of the latter, the official utilisation of by-products, the diversion of poorer qualities of meat from the fresh market to the manufactured market, the control of seasonal gluts, the unification of wholesaling and further research on marketing and sales problems.

(3) **Food Value of Beef.** (Dr. E. H. Callow.)

Those who listened to Dr. Callow's paper were impressed by the care and ingenuity displayed in presenting the facts regarding the food value of beef in relation to the killing-out weights, quality, etc., with mathematical clarity. Interest is centred round fat and protein which vary in the relative proportions in different grades of beef.

Fourteen selected animals classified as "fat stock" and representative of beef animals, received at markets throughout the country during the war, were examined in great detail. In all those which dressed-out at 50 per cent. or over, the absolute percentage of fat and its proportion to muscle and bone increased steadily as the dressing-out percentage (D.O.P.) rose. For every 1 per cent. increase in fatty tissue, muscle fell by 0·7 per cent. and bone by 0·26 per cent.

Irrespective of the D.O.P., about one-third (31·7 per cent.) of the live weight is due to muscular tissue. This is slightly higher in young, lightweight animals than in old, heavyweights. The D.O.P. was found to depend almost entirely on the stage of fatness of the animal. For every increase of one in the D.O.P. the fatty tissues of the carcase increased by 1·43 per cent. The price of boneless beef in England and U.S.A. was found to bear a close relationship to the fat content.

Palatability is enhanced up to a point at which rather more than one-third of the roasted joint is fat. Animals with a D.O.P. of 58 per cent. provide beef of the highest palatability.

REVIEW

[**Lander's "Veterinary Toxicology"** (Third Edition: Revised by Professor J. A. Nicholson). Pp. vi + 329. Baillière, Tindall & Cox, 7-8, Henrietta Street, London, W.C.2. Price 21s. Postage 7d.]

There can hardly be a veterinarian in practice who is not repeatedly encountering cases of suspected poisoning which remain undiagnosed or in doubt. Much of the very limited literature on this wide subject, even including Lander's "family bible," has been vague and based on circumstantial evidence rather than on careful estimations and experiments. It will therefore come as a great relief to those hard-pressed practitioners to learn that that standard work on veterinary toxicology has been brought up to date and placed on a firm scientific basis by Professor J. A. Nicholson.

For the purpose intended the book fulfils its main object as a reference for students and veterinary surgeons; but the author's claim as to its usefulness to the practising toxicologist and the research worker is also amply justified.

The section on Chemical Toxicology has been revised and reconstituted, with a fairly extensive review of modern methods of toxicological analysis, and since the analyst often has the last say in a case of poisoning, it is to be hoped that this section will continue to be revised in the light of future research work.

Parts of the introduction especially addressed to the practitioner are timely, as many cases have remained unsolved simply because of poor observations and complete lack of data, which, let it be known, are often as valuable to the analyst in aiding him in arriving at a conclusion as is the result of an exact chemical estimation.

The new edition brings up to date a very useful volume on an extremely intricate and controversial subject.

GOVERNMENT CONTROLLED SLAUGHTERHOUSES

Since the outbreak of hostilities some 13,000 slaughterhouses have become redundant. The number at present controlled by the Ministry of Food is 596 killing centres and 15 export centres, making a total of 611. The large majority of the slaughterhouses now out of commission are of the smaller type and owned in the main by local traders. How many of these slaughterhouses will be re-opened after the war is a matter of conjecture. The deciding factor may well be in the direction of the Government's policy, which appears to be in devising a system of organised marketing of livestock. Should this policy be pursued, with the backing of the Ministry of Agriculture, then wholesalers will of necessity purchase the whole output of livestock, or part thereof, for slaughter. Such a plan would ultimately mean that the distribution of carcases and offals would be directed to retailers' shops on the dead-weight basis. —Ald. T. McLellan.

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Test of the homing flight of carrier pigeons, by the U.S. Army Signal Corps, indicates that radio transmission confuses them. Pigeons released near a broadcasting station circled about aimlessly for about 20 minutes and were delayed even longer in reaching their home cote when broadcasting was in progress. Control birds released when the station was not in operation were unaffected.—*Vet. Med.*

NOTES AND NEWS

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

July 11th.—Meeting of the Editorial Committee, N.V.M.A., 36, Gordon Square. W.C.1, 2.30 p.m.

July 13th.—Meeting of the North Wales Division, N.V.M.A., at Bangor (School of Agriculture, Deiniol Road), 2.30 p.m.

July 17th.—Meeting of the British Society of Animal Production at the University of Reading, 10.30 a.m.

July 20th.—Meeting of the Mid-West Division, N.V.M.A., at Bristol (Bright's Restaurant, Queen's Road, Clifton), 2.30 p.m.

July 24th.—Summer Meeting of the Eastern Counties Division, N.V.M.A., at Cambridge (Institute of Animal Pathology), 11 a.m.

July 25th.—Meeting of the Lancashire Division, N.V.M.A., at the Cheshire School of Agriculture, Reasheath, Nantwich.

July 26th.—Meeting of the South-Eastern Division, N.V.M.A., at Folkestone (Subscription Rooms, Leas Cliff Hall).

July 26th.—Meeting of the Southern Counties Division, N.V.M.A., at Winchester (Royal Hotel), 2.30 p.m.

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Release from the Armed Forces of Veterinary Surgeons Under the Arrangements for the Release of Individual Specialists (Class B)

1. Under the Government's partial demobilisation plan, which is now in operation, provision is made for the release of a very strictly limited number of men as individual specialists whose release out of turn *to take up specified civilian employment* can be justified on grounds of vital national importance.

2. Application for the release of a veterinary surgeon under these arrangements should be made by his prospective employer—or by the veterinary surgeon himself if he intends to resume or to set up practice on his own account—to the Ministry of Agriculture and Fisheries if the practice is in England or Wales, or to the Department of Agriculture for Scotland if the practice is in that country.

3. The function of the Agricultural Departments will be to sponsor recommendations for release in suitable cases to the Ministry of Labour and National Service who, if satisfied, will pass the case to the Service Department concerned whose decision will be final. The sole criterion in any case is the national interest, and before they can proceed with an application the Agricultural Departments will require to be satisfied that there is a very strong case on agricultural grounds for the immediate and special release of the serving veterinary surgeon. It follows from this that the Agricultural Departments could not sponsor an application relating to a practice which is not predominantly of an agricultural character.

4. In view of the shortage of veterinary man-power it is understood that the Agricultural Departments, subject to the strict rules applying to the release of individual specialists, will be prepared to give favourable consideration to applications for the release in Class B of veterinary surgeons serving in the Navy, the R.A.F. and units of the Army other than the Royal Army Veterinary Corps. In view of the military situation it is not expected that the R.A.V.C. will be able at present to release out of turn any veterinary officers in Class B, although it is hoped that a number of veterinary officers who have served in the Corps since the beginning of the war will be released in their age and service group in coming months.

5. Further information on this matter, including forms of application and an explanatory leaflet, may be obtained from the Ministry of Agriculture and Fisheries, Block 4, Bickenhall Mansions, Bickenhall Street, London, W.1, or from the Department of Agriculture for Scotland, 15, Grosvenor Street, Edinburgh, 12.

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Scheme for the Control of Certain Diseases of Dairy Cattle in England and Wales

The Executive of the National Veterinary Medical Association, after agreement with National Farmers' Union and the Ministry of Agriculture, recommends that undertakings under the Scheme for the Control of Certain Diseases of Dairy Cattle in England and Wales, which are due to lapse and which both parties are willing to renew on the basis of existing agreements, should be extended for twelve months.

This would mean that in respect of two or three year undertakings, the 10 per cent. and 20 per cent. rebates respectively will continue to operate.

Meanwhile, discussions between the three bodies concerned will take place and any alterations which may subsequently be agreed will be announced.

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The New President of the Royal College of Veterinary Surgeons

Major Arthur Bowman Mattinson, O.B.E., M.C., M.A., F.R.C.V.S., of Bamber Bridge, Preston, has been elected President of the Royal College of Veterinary Surgeons for the year 1945-46, in succession to Mr. T. M. Mitchell.

In congratulating Major Mattinson upon this highest mark of the profession's confidence and esteem, we can in this issue refer only in general terms to his distinguished career in the academic and military spheres and in the field of veterinary practice. A biography of the new President will appear in an early issue. Major Mattinson has been a member of the Council of the Royal College since 1933 and has been Chairman of the Finance and General Purposes Committee. He, therefore, brings to the office of President a wide and varied experience.

Our readers will, we are sure, learn with the deepest regret that on the very day before his election Major Mattinson was summoned home and on arrival found his wife had passed away. She had been ailing for some time, but there was no warning that the end was so near. In wishing the new President a successful year of office we would, therefore, add our hope that this manifestation of the great regard in which he is held by his colleagues may sustain and comfort him in the great bereavement he has suffered.

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R.C.V.S. OBITUARY

Hilliard, James Joseph, Major R.A.V.C. (R.O.), O.B.E., Royal Calcutta Turf Club, Box 162, Russell Street, Calcutta. Graduated Dublin, July 21st, 1908. (Date of death not known.)

O'Kane, John Patrick, Oxford House, Garstang Road, Broughton. Preston, Lancs. Graduated Dublin, July 21st, 1922. Died June 15th, 1945; aged 49 years.

Robson, Samuel, Capt. late R.A.V.C., 48, Parkgrove Drive, Barnton. Edinburgh. Graduated Edinburgh, May 24th 1905. Died June 25th, 1945.

Shipley, William, Capt. late R.A.V.C., 28, Southtown, Great Yarmouth. Graduated London, July 7th, 1915. Died June 26th, 1945; aged 51 years.

The Late Mr. J. P. O'Kane, M.R.C.V.S.

Mr. J. P. O'Kane, whose death at the early age of 49 years we record with much regret, was a member of a well-known Preston

family, and was held in high esteem by the agricultural community of the North-West.

After qualifying at Dublin in 1922, he returned to Preston, where he built up an extensive agricultural practice. He also held appointments with several official bodies, including the Ministry of Agriculture and Fisheries, the L.M.S. Railway Co. and the R.S.P.C.A. (Preston district).

Deep sympathy will be extended to the members of his family in their bereavement.

THE LATE CAPT. WILLIAM SHIPLEY, M.R.C.V.S.

The death of Capt. William Shipley, which took place suddenly at his home, will be deeply regretted by his many friends in the profession. Members of the N.V.M.A. will have an appreciative recollection of the great part he played in ensuring the success of the demonstrations at the Association's last full pre-war Congress, in 1939, when these were held at his Southtown premises. We hope to publish a more extended tribute in an early issue.

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PERSONAL

Birth.—HOWATSON.—On July 1st, 1945, to Betty, wife of John Howatson, M.R.C.V.S., 48, Rae Street, Dumfries—a daughter.

University of Cambridge.—Mr. R. S. Comline, who graduated at Edinburgh in July, 1942, was placed in Class I (Physiology) of the Natural Sciences Tripos, Part II Cambridge University, on June 14th, 1945, and consequently has proceeded to his bachelor's degree.

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ROYAL (DICK) VETERINARY COLLEGE

The veterinary surgeons practising in Scotland have elected the following gentlemen to the Board of Management of the above College for the three years commencing July 1st, 1945: Mr. William Nairn, C.B.E., M.R.C.V.S., Blairgowrie; Mr. W. L. Weipers, M.R.C.V.S., D.V.S.M., Glasgow; Major D. S. Rabagliati, B.SC., F.R.C.V.S., D.V.S.M., Edinburgh.

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ADDRESSES OF DISEASE-INFECTED PREMISES

FOOT-AND-MOUTH DISEASE:

Surrey.—The Boxes, Sutton Green, Guildford; Warehams Farm, Sutton Green, Guildford; Scotchers Mead, Sutton Park, Sutton Green, Guildford: Send Court Farm, Send, Woking (June 28th); Boyers Farm, London Road, Burpham, Guildford (June 29th).

SWINE FEVER:

Berks.—Pigsties and Field, Elcot Park, Kintbury, Newbury (July 2nd).

Cumberland.—Stockdale Hall, Heads Nook, Carlisle (June 27th).

Durham.—The Mill, Haughton-le-Skerne, Darlington (July 2nd).

Kent.—Coppings Farm, Leigh, Tonbridge (June 27th).

Lanarks.—The Piggeries, Stepps Road, Auchinloch (July 2nd).

Lincs.—26, Withington Road, Sutton Bridge, Spalding (July 2nd).

Somerset.—Holemoor Farm, Combe St. Nicholas, Chard (June 27th).

Surrey.—Rosemary Lane, Thorpe, Chertsey (June 25th).

Wilts.—Idstone Farm, Ashbury, Swindon (June 29th).

SHEEP SCAB:

Denbighshire.—Ysgybor Newydd, Bylchau, Denbigh (June 25th); Erw Gerrig, Pandy, Glynceiriog, Wrexham (June 27th).

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DEARTH OF TRAINED STOCKMEN

Commenting on the Government's recently issued plans for training released members of the Forces in agriculture, *The Farmer and Stock-Breeder* observes that before the planning of the scheme proceeds much farther (if the Ministerial policy with its livestock bias is to be successful) there must be special recruiting and training for those who will eventually have the handling of the animals of the farm.

"From one end of the country to the other comes the cry for herdsmen, pigmen and shepherds. The best is not being obtained from our dairy herds largely because we have lost so many of the men with whom stock management was a craft, an art and something of a knack. The cowman with the passion for his job is becoming scarcer and scarcer, yet only with the aid of such men can the Ministry hope to achieve higher milk production without a large increase in the number of cows.

"Shepherds, too, at least those of the old type who knew so much about other things on the farm as well as their sheep, are decreasing steadily. For this the past official attitude towards sheep breeding must bear its share of blame. We shall probably have cause to regret the decline of sheep as much from lost soil fertility as from loss of mutton and wool. As for the pigman, he is fast disappearing.

"In operating such a training scheme as this the needs of breeders must be taken carefully into account so that the plan does not result in the output of a vast number of general farm workers alone. As many as possible should be encouraged to specialise with farm animals and co-operate in the improvement scheme."

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MINISTRY OF AGRICULTURE NEWS SERVICE

Kale for Milk.—On any dairy farm marrow-stem kale for feeding before Christmas, followed by thousand head that will maintain its leaf well into the New Year, are crops that will do much to help maintain the milk supply. Kales can be sown up to the end of June or even till mid-July. Granted a fine moist seedbed very little subsequent cultivation is necessary. To produce a heavy crop, however, liberal manuring is necessary. If grown on ploughed-up old pasture or ley farmyard manure may be dispensed with provided a fertiliser dressing containing an abundance of nitrogen is given. When sown on this type of land kale plays a great part in disintegrating the old turf. Yields of 30 tons per acre are easily obtainable.

The feeding value of kale is high; 120 lb. would be sufficient to provide the nutriment required for a cow's maintenance ration and the first gallon. Under normal conditions, the value of marrow-stem kale begins to fall at the end of December, when it is liable to frost damage and becomes woody and fibrous. It is, therefore, a good plan to make full use of the crop by making it into silage. Pit silos are ideal for making kale silage. A useful size is 4 feet deep, 14 feet wide at bottom of pit and 15 feet wide at the top, with adequate drains constructed at the lowest end. The processing of kale silage is similar to that of any other crop, namely, a quickly and well grown plant, chaffing, some rise in temperature and the exclusion of air and water. High quality samples have a golden colour and show a large percentage of leaf. If fairly dry this silage can be fed at the rate of 25 lb. for each gallon of milk.

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Horse Care.—Although mechanisation has played the major part in our war-time production of food and tractors will continue in peace-time to be the chief form of power for all agricultural work, the value of the horse must not be overlooked. For certain jobs on the farm the horse is as indispensable to-day as it was before the advent of the internal combustion engine.

On the assumption that most farmers were horse-minded but few were tractor-conscious much has been written on the care and maintenance of the tractor, but little has been said about the horse. Judging from the way in which the horses of to-day improve in condition when turned out to grass in May or June it would seem that their winter feeding has been somewhat deficient.

A hard-working horse should receive as much variety in its food as possible. Oats and hay are certainly its two chief foods, but even if they are of the best quality, and often they are not, they do not constitute a complete ration. A horse needs a little extra and that little extra goes a long way to keeping him in good condition. In winter, a few surplus carrots or parsnips should be given to the horses. Pulped swedes or mangolds, say 5 to 8 lb. daily, a good handful of cabbage leaves, or some marrow stem kale, using only the tops of the plants, all these help to put variety into the food and life into the horse. Some horses appreciate 4 to 5 lb. of good silage. Perhaps it will not be long before the Saturday bran mash is again available in the stable. Until it is, a reduction of oats, beans and heavy food when a horse is idle is sound stable practice. Feeding times should be regular. The actual hour is immaterial, but it should be the same time every day.

An efficient performance will never be obtained from a badly serviced tractor: the same is true of the horse. Pressure of work and shortage of labour are often the main causes of neglect, but on any farm bad management leads to inefficiency and waste. The daily grooming of a horse is probably more important than the daily servicing of a tractor. The horse is a living creature and the massage of grooming stimulates the circulation of blood and lymph. It also encourages the execretion of waste products through the skin pores and gets rid of scurf and loose hair. In addition it disturbs and removes lice and their eggs. When at work, whether it be horse or tractor, a daily grooming advertises the care and conscientiousness of horseman or tractor driver.

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal views of the writer only and must not be taken as expressing the opinion or having received the approval of the N.V.M.A.

Letters to the Editor should reach the Office not later than by the first post on Monday morning for insertion in following Saturday's issue.

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VETERINARY EDUCATION

Sir,—The present controversy in connection with veterinary education is unfortunate, but letters such as appeared under the name of E. P. Edwards in your number of April 21st surely tend to exacerbate the situation and to introduce a personal atmosphere

which is to be deplored. The suggestion that the sponsors conducted a furtive campaign at home but at the same time scoured the ends of the earth for signatories in order to secure names for the veterinary education memorandum is an assumption for which your correspondent seems to have no foundation. I was home on leave last year; a friend sent me a copy of the memorandum, asked me to read it and sign it if I approved of it, which I did. No pressure of any kind was brought to bear on me to sign; at the same time he asked me if I knew of any other Colonial veterinarians home on leave, as they might like to read the memorandum and even sign it. I gave him the name of one officer from the Gold Coast, who signed the memorandum as I found when he returned from leave. The Nigerian signatories were also officers home on leave, as I happen to know, and it would seem that most of the Colonial signatories were people living at home at the moment. None of my officers resident in the Gold Coast signed nor received a copy of the memorandum, which I think was a pity, as the vast majority of Colonial officers are undoubtedly in favour of its views. Surely the sponsors of the memorandum can be assumed to be gentlemen of some decency. This is not the first letter in which somewhat personal statements of an unfortunate type have been made, but such letters as I have seen have been confined to the same side. May I suggest that both sides confine their arguments to facts and opinions and cut out personalities and such inferences as I deplore in the letter in question. Too much emotion has crept into a matter which requires to be viewed dispassionately and objectively. I am gratified to discover from the letter that so many Colonial veterinarians did have the opportunity of reading the memorandum and that apparently most people home on leave had the chance of signing if they so wished. I may be obtuse but I fail to see why the memorandum should not have been sent direct to the R.C.V.S.,* which seems to me to be the proper recipient. Incidentally I was asked to show my copy of the memorandum to any veterinary friend whom I liked and to give it as much air among members of the profession as possible. For once we Colonial members got a chance to state our opinions through this memorandum for which I, for one, thank its sponsors.

Yours faithfully,

Pong-Tamale, Gold Coast. J. L. Stewart.

June 3rd, 1945.

[*This was in fact done.—Editor.]

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R.C.V.S. COUNCIL ELECTION

Sir,—I read with some concern the letter from Mr. E. P. Edwards in your issue of June 16th. Hoping that my memory was not so imperfect as Mr. Edwards would have me believe, and, being on holiday, I had to delay replying until the Supplement of *The Veterinary Record* reporting my remarks in Council, R.C.V.S., on July 18th had been forwarded to me. I am relieved to find that the fog which Mr. Edwards discerned was not over Tamworth but over Prestatyn!

If my letter of May 26th was "rambling," that of Mr. Edwards could only be described as a paper-chase! I wish, however, only to comment as briefly as possible on a few of my friend's statements.

I think I am entitled to inform him that it was *The Veterinary Record* who styled him as an "experienced politician"—I called him a "crafty old politician"; a description which I considered much more appropriate and one which I am sure he would appreciate more fully! *The Veterinary Record*, however, in its infinite wisdom chose to play safe lest it should be sued for libel jointly with me.

Does Mr. Edwards really seriously contend that if he viewed the list of candidates at the recent election without regard to their political convictions he might as well use the "punter's pin"? I use his own statement as a boomerang—"he surely under-estimates his intelligence as he certainly strains my credulity."

It is always unwise and sometimes dangerous to lift words from their context or to abstract sentences from a discussion. In the debate referred to by Mr. Edwards, he quotes me accurately as saying "they should define what they meant by the one-portal system," but he takes the responsibility of attributing the word "they" to the Loveday Committee, whereas "they" referred to members of council, R.C.V.S. I was then, as always, seeking enlightenment from my colleagues and striving to be impartial in my judgment. Mr. Edwards, however, credits me with no such worthy motives. Again, when I said in my letter "I would plead that however they vote their decision should be based on reason rather than shibboleth," I was directing my appeal to both parties and Mr. Edwards has neither right nor reason to assume otherwise.

I am frequently misunderstood and not infrequently misquoted, but I had not expected my political mentor to sin in this respect. I await, however, with equanimity, his withdrawal and apology.

Yours faithfully,

Scourie, Lairg, Sutherland. H. W. Steele-Bodger.

June 25th, 1945.

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A PROTEST

Sir,—Whilst agreeing with most of the obituary notice by "J.McC." in *The Veterinary Record* of June 23rd, it is considered that a protest should be registered against his observations on the comparison between the London practitioner and his colleagues in the rest of the country. It would appear that "J.McC." is such a thorough Londoner, and consequently his field of observation so restricted, that he has never heard of the veterinary surgeons practising in the industrial and commercial cities and towns of Britain, who by their professional skill and general behaviour have become eminent citizens, nor has he heard of the many country practitioners (who would doubtless come within J.McC.'s category "cow-leech") who by their skill, sound judgment and integrity have become the "guide, philosopher and friend" of farmers of half a county, whose confidence was so great that their veterinary surgeons were often called in to settle disputes, and help their clients to make their wills.

It is maintained that the provinces have produced veterinary practitioners who deserved and gained quite as much honour and professional status as any London colleague.

It is surprising that the Editorial Committee approved the publication of such a notice in our professional journal.

Yours faithfully,

Public Health Department, J. A. Dixon.
12, Market Buildings,
Vicar Lane, Leeds, 1.

June 27th, 1945.

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DEMOBILISATION OF N.C.O.s AND MEN OF THE R.A.V.C.

Sir,—I have read with considerable interest the letter from Colonel C. H. S. Townsend, on the subject of demobilisation of N.C.O.s and men of the Royal Army Veterinary Corps, published in your issue of June 23rd, and would say that the Executive Committee and Council of this Association have had the matter of employment of discharged R.A.V.C. personnel under consideration at the last two meetings, and for your information I append a copy of a letter written to the Ministry of Labour and National Service dated May 16th last, together with a copy of their reply thereto dated June 5th, 1945, which is not particularly helpful.

"At a meeting of the Council and Executive Committee of this Association cognisance was had of the fact that demobilisation will shortly commence, and it was felt that the members of this Association could well help in the absorption of demobilised personnel of the Royal Army Veterinary Corps into the compass of this particular trade.

"We have during the whole of the existence of this particular type of business, and in fact since veterinary science first came into existence, been the handmaiden of the veterinary practitioner and the character of our business is such that discharged R.A.V.C. personnel would find themselves to some considerable extent qualified for appointment to technical posts in this industry.

"We should be glad if you would give this your mature consideration as we think it would be a contribution to Post-War Rehabilitation."

Ministry of Labour's reply:—

"I am directed to refer to your letter of May 16th regarding the employment of men discharged from the Royal Army Veterinary Corps.

"All men and women discharged or released from H.M. Forces are advised to attend at Employment Exchanges or Appointments Offices. If therefore, your members notify any vacancies in their employment to the local offices of this department, they will be brought to the attention of ex-Service candidates in appropriate cases."

The members of this Association have for many years been handmaidens of the veterinary profession, and I think you and your readers will appreciate the fact that demobilised R.A.V.C. personnel would by virtue of their experience and training be eminently suitable for employment in this industry, and I can assure you that we shall be glad to co-operate with you with a view to giving as much employment to such personnel as may be found possible.

Yours faithfully,

Ernest Upton,
Vice-Chairman.

The Licensed Horse Slaughterers Association,
174, Gresham House, Old Broad Street,
London, E.C.2.

June 28th, 1945.